

## **Remarks**

The above Amendments and these Remarks are in reply to the Office Action mailed January 26, 2005. Claims 1-42 were pending in the Application prior to the outstanding Office Action. Claim 23 is being canceled. Claims 24-28, 32, 33, 35 and 42 are currently being amended. Accordingly, claims 1-22 and 24-42 remain for the Examiner's consideration. Reconsideration and withdrawal of the outstanding rejections and objections are respectfully requested.

### **I. Allowed Claims**

Applicants would like to thank the Examiner for indicating that claims 1-22 and 29-31 are allowed.

Applicants would also like to thank the Examiner for indicating that claim 28 would be allowable if rewritten in independent form to include all of the limitations of its base claim.

### **II. Claim Objection**

Claim 35 was objected to because of a lack of antecedent basis. Claim 35 has been amended to overcome this objection. This amendment is not believed to be narrowing.

### **III. Summary of Rejections**

Claims 23, 32, 33, 35-37 and 40 were rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 5,009,764 to Siefkes et al (referred to hereafter as "Siefkes").

Claims 27, 34, 41 and 42 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Siefkes in view of U.S. Patent No. 6,477,021 to Haun et al. (referred to hereafter as "Haun").

Claims 24-26, 38 and 39 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Siefkes in view of U.S. Patent No. 6,368,391 to O'Hara et al. (referred to hereafter as "O'Hara").

#### **IV. Discussion of Claims**

##### **A. Claim 23-26**

Claim 23 has been deleted. However, its features have been added to into claims 24, 25 and 26, which have been redrafted into independent form.

The method of claim 24 includes "after shut down due to the accumulated arcing time reaching the second threshold, restarting the electro-kinetic system in response to detecting removal and replacement of the second electrode." (It is noted that the word "replacement" as used herein is synonymous word "return".)

As mentioned above, claims 24 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Siefkes in view of O'Hara. Siefkes is directed to a method of removing an electrical short in a sputtering system. Referring to FIGS. 1A and 1B, a power supply 6 maintains a bias potential between a target 3 and an anode 4 (see column 4, lines 63-65). If a flake 11 occurs across a gap 9 between the target 3 and the anode 4, an electrical short occurs, causing a current to rise and eventually reach an over-current level, which triggers shut-off of the power supply 6. If it is eventually determined that an electrical short exists due to a flake, then the power supply 6 is controlled in such a manner that the flake 11 can be melted, and thereby removed.

It was admitted in the Office Action that Siefkes does not disclose removal and return of a second electrode from the housing. However, it was alleged in the Office Action that column 1, lines 56-67 and column 2, lines 1-14 of O'Hara disclose the deficiencies of Siefkes. For at least the following reasons, Applicants respectfully disagree with the rejection of claim 24.

Column 1, lines 56-67 and column 2, lines 1-14 of O'Hara discuss an air filtration system that allows a user to "easily remove and replace the primary filter module as desired to maintain the operating efficiency of the air filtration system." However, the system of O'Hara does not specifically detect the removal or replacement of the filter module. Further, the system of O'Hara is not restarted in response to detecting removal and replacement of the filter module, after the system has been shut down due to an accumulated arcing time reaching a certain threshold.

One of ordinary skill in the art would not think to modify Siefkes based on O'Hara. The target 3 and the anode 4 of Siefkes do not appear to be readily removable due to their size, the

very small gap between them, and due to the fact that they are located within a vacuum chamber 1 into which a sputtering gas 7 is introduced. Accordingly, upon reviewing O'Hara, one of ordinary skill in the art would not be motivated to remove the target 3 and/or anode 4, or detect such removal, or to perform a "restart" in response to detecting such removal and replacement.

Additionally, Applicants respectfully assert that it is improper to combine Siefkes and O'Hara, as there is no suggestion of the desirability of the combination of these references, even when their disclosures are viewed in their entirety. First of all, Siefkes relates to a sputtering system which is used to coat a surface with a thin film. In contrast, O'Hara is directed toward an air filtration system. One of ordinary skill in the art of sputtering systems would not look to the art of air filtration to modify the sputtering system of Siefkes, or vice versa. Further, there is no teaching or suggestion in O'Hara that the primary filter would be useful in a sputtering system, such as the one of Siefkes. Likewise, there is no teaching or suggestion in Siefkes that one should look to the art of air filtration systems to modify its sputtering system. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Siefkes and O'Hara. This leads to the inevitable conclusion that inappropriate hindsight has been employed with reconstruction guided solely by the Applicants' disclosure. It is well established that the prior art must be viewed without reading into that art the Applicant's teachings. *In re Spinnoble*, 160 U.S.P.Q. 237, 243 (C.C.P.A. 1969). "The issue is whether the teaching of the prior art would, in and of themselves, without the benefit of appellant's disclosure, make the invention as a whole obvious." As each of the supplied references fail to teach or suggest elements contained within Applicants' claims, it is only by inappropriate hindsight that one might possibly reach the invention from the references supplied. In view of the foregoing, Applicants respectfully assert that a *prima facie* case of obviousness has not been established.

For at least the above reasons, Applicant respectfully request reconsideration and withdrawal of the rejection of claim 24.

The method of claim 25 includes "after shut down due to the accumulated arcing time reaching the second threshold, restarting the electro-kinetic system in response to detecting replacement of the second electrode." For similar reasons to those discussed above with regards to claim 24, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 25.

The method of claim 26 includes "after shut down due to the accumulated arcing time reaching the second threshold, restarting the electro-kinetic system in response to detecting reset by a user." Applicants respectfully assert that a *prima facie* case of obviousness has not been established with regards to claim 26. As indicated in MPEP § 2142, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Siefkes and O'Hara, alone or in combination, do not teach or suggest "after shut down due to the accumulated arcing time reaching the second threshold, restarting the electro-kinetic system in response to detecting reset by a user," as required by claim 26. Additionally, there is no explanation in the Office Action of how these prior art references teach or suggest these features. If this rejection is to be maintained, Applicants respectfully request that the Examiner point out where the prior art teaches or suggests these claimed features. Otherwise, Applicants respectfully request withdrawal of this rejection of claim 26.

#### **B. Claim 27**

The method of claim 27, as amended, includes "each time a monitored current value reaches a current threshold, incrementing a first count, wherein the current threshold is set based on an airflow setting". None of the cited references teach or suggest that a current threshold is set based on an airflow setting (e.g., low, medium and high airflow setting each have their own corresponding current threshold). Accordingly, Applicants respectfully assert that claim 27 is patentable over the cited prior art.

#### **C. Claim 28**

As mentioned above, the Examiner indicated that claim 28 would be allowable if rewritten in independent form to include all of the limitations of its base claim (i.e., claim 27). Claim 28 has been amended to include the limitations of its base claim, and thus, should now be allowable.

**D. Claim 32**

In claim 32 as amended, states that "following the accumulated arcing time reaching the second threshold, the electro-kinetic system is not restarted until the second electrode has been removed and replaced." Applicants believe that this claim is patentable over the cited prior art for reasons similar to those discussed above with regards to claim 24.

**E. Claim 33**

In claim 33 as amended, the microcontroller unit "shuts down the electro-kinetic system when the accumulated arcing time reaches a second threshold, such that following the accumulated arcing time reaching the second threshold, the electro-kinetic system is not restarted until the micro-controller receives an indication that the second electrode has been replaced." Applicants believe that this claim is patentable over the cited prior art for reasons similar to those discussed above with regards to claim 24.

**F. Claims 34 - 40**

Independent claim 34 includes a micro-controller unit that "monitors a current associated with the electro-kinetic system in order to adjust a first count and a second count; increments the first count, each time a monitored current value reaches a current threshold; increments the second count, temporarily shuts down the electro-kinetic system for a predetermined period, and re-initializing the first count, each time the first count reaches a first count threshold; and shuts down the electro-kinetic system, when the second count reaches a second count threshold, until a reset condition is satisfied."

Applicants respectfully assert that a *prima facie* case of obviousness has not been established with regard to claim 19. Siefkes and Haun, alone or in combination, do not teach or suggest a micro-controller that "increments the second count, temporarily shuts down the electro-kinetic system for a predetermined period, and re-initializing the first count, each time the first count reaches a first count threshold; and shuts down the electro-kinetic system, when the second count reaches a second count threshold, until a reset condition is satisfied," as is required by claim 34. Additionally, there is no explanation in the Office Action of how these prior art references could possibly teach or suggest these features. (The Office Action only alleges that

Haun teaches incrementing a first count, and shutting down/removing power when the first count reaches a first count threshold). Accordingly, Applicants respectfully request that the 103(a) rejection of claim 34, and its dependent claims 35-40, be withdrawn.

#### **G. Claim 41**

Independent claim 41 includes a micro-controller unit that "monitors a current associated with the electro-kinetic system in order to adjust a first count and a second count; increments the first count, each time a monitored current value reaches a current threshold; increments the second count, temporarily lowers a potential difference between the first and second electrodes for a predetermined period, and re-initializing the first count, each time the first count reaches a first count threshold; and shuts down the electro-kinetic system, when the second count reaches a second count threshold."

For reasons similar to those discussed above with regards to claim 34, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. 103(a) rejection of claim 41.

#### **H. Claim 42**

Claim 42, as amended, states that the micro-controller unit "resets the count, when the monitored current or voltage has not exceeded the threshold for a predetermined amount of time." Applicants believe that the cited references do not teach or suggest this feature. For at least this reason, Applicants respectfully assert that claim 42 is patentable over the cited prior art.

Additionally, Applicants respectfully assert that it is improper to combine Siefkes and Haun, as there is no suggestion of the desirability of the combination of these references, even when their disclosures are viewed in their entirety. Rather, Applicants believe that inappropriate hindsight has been employed with reconstruction guided solely by the Applicants' disclosure.


#### **V. Conclusion**

In light of the above, it is respectfully requested that all outstanding rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment of fees or credit any overpayment of fees to Deposit Account No. 06-1325 (order no. SHPR-01361USB) for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: 3/31/05

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